

Evaluation of Silymarin as a Promising Radioprotector

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Silymarin, a purified extract of seeds of *Silybum marianum* L. and well known for its hepatoprotective abilities, has been evaluated for inherent utility as a radioprotective agent. A fraction (INM-7035) was authenticated by characterizing the percentage composition of silybin A and B (39.9% and 57.4%). Free radical scavenging activities of INM-7035 against superoxide radicals (>68%), hydroxyl radicals (>33.75%), DPPH (67.2%), and ABTS (32.4%) were also evaluated. The fraction chelated (>30%) ferrous ions, thereby able to restrict amplification. INM-7035 exhibited >50% peroxy radical scavenging activity in the lipid phase along with dose-dependent ($R^2 = 0.990$) reducing power in the aqueous phase. Radiation-induced free radical flux can lead to disruption of biomolecules like membrane lipids. INM-7035 completely inhibited lipid peroxidative stress in case of membranes against supralethal radiation stress in the liposomal system. The ability of INM-7035 to modulate the levels of NF- κ B, indicated its inherent potential as a radioprotective bioactive constituent.

Key words: Silymarin, Radioprotection, Antioxidant